United States Environmental Protection Agency

EPA Proposes PCB Cleanup for Ten-Mile Drain Storm Sewer System

June 2023

Ten-Mile Drain Superfund Site
St. Clair Shores, Michigan

U.S. Environmental Protection Agency is proposing to clean up portions of the Ten-Mile Drain storm sewer system impacted with polychlorinated biphenyls, or PCBs, in the Ten-Mile Drain Superfund site in St. Clair Shores, Michigan. You are invited to submit your comments on this proposed plan. This fact sheet provides background information, describes cleanup options, and explains EPA's recommendations. The proposed cleanup plan resulted from a study of the nature and extent of contamination at the site, and an evaluation of different cleanup options available. Please see pages 2-3 for a summary of the proposed alternatives.

You are invited

EPA invites you to comment on the proposed cleanup plan for the Ten-Mile Drain site. See details under "Public Comment Period" heading to the right.

Read the proposed plan

The detailed proposed plan is available for review in the information repository and on the web. www.epa.gov/superfund/ten-mile-drain

For more information

If you have questions or comments, please contact:

Caitlin McIntyre
Community Involvement Coordinator
312-353-2073
mcintyre.caitlin@epa.gov

Colleen Moynihan
Remedial Project Manager
440-250-1702
moynihan.colleen@epa.gov

You may also call EPA toll-free: 800-621-8431, weekdays, 9:00 a.m. to 5:30 p.m.

Public comment period

EPA is issuing this proposed plan as part of its public participation responsibilities under federal Superfund law. **EPA will accept comments on the proposed plan from June 12 to July 11, 2023. EPA is hosting a public meeting on June 22, 2023.** After a brief presentation, EPA will answer questions about the proposed plan before taking public comments. EPA will publish a transcript of any oral comments presented at the meeting.

Date: June 22, 2023
Time: 5:00 – 6:00 p.m. open house, followed by short presentation at 6:30 p.m.
Location: City Council Chambers, 27600 Jefferson Ave.

There are several other ways to offer comments:

- Complete and mail the comment form in this fact sheet
- Email comments to EPA Community Involvement Coordinator Caitlin McIntyre at mcintyre.caitlin@epa.gov
- Online at www.epa.gov/superfund/ten-mile-drain, and see "Announcements and Key Topics"

EPA may modify the plan or select another option based on new information or public comments, so your opinion is important.

Why is cleanup needed?

PCBs are present throughout different components of the Ten-Mile drain system: soil and backfill material around pipes and manhole vaults, and trench water immediately surrounding pipes. In 2005-2006, EPA installed a pipe liner, known as a **cured-in-place pipe**, or **CIPP**, to prevent PCBs from seeping into backfill surrounding the sewers near Bon Brae Street and Harper Avenue. Figure 1 on the next page shows where the CIPP is located within the existing drain infrastructure.

EPA placed 17 small dams called "weirs" inside the drainpipe and absorbent snares to stop or slow the movement of PCBs flowing into the Lange and Revere Street canals, and ultimately Lake St. Clair. In 2015-16, EPA removed and replaced two large manhole vaults and a section of pipe beneath Harper Avenue and the CIPP liner where the highest levels of PCBs had been found in the TMD system (see Figure 3, page 3 and the blue segment in figure 2, page 2).

The remaining components of the drain system near the intersection of Bon Brae and Harper are a residual source of PCB contamination. To address this contamination, EPA has set two overall cleanup objectives in this proposed plan:

- To protect the safety of utility workers by preventing exposure to PCBs; and
- To prevent PCB migration through the sewer system into Lange and Revere Canal Sediments.

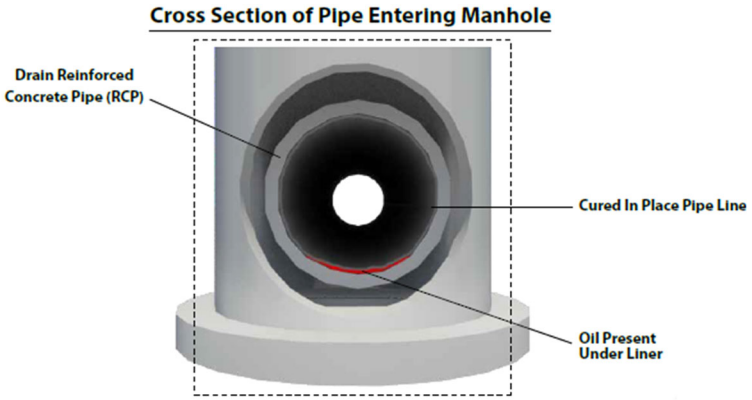

Figure 1: Cross section of pipe with PCB oil under CIPP

This proposed plan outlines how EPA plans to further protect the health and safety of the St. Clair Shores community and environment, particularly utility workers who may be exposed to contamination. EPA has set a preliminary cleanup goal of no more than 21 ppm of PCBs in soil surrounding the sewer system, and in TMD utility corridor, i.e., depths of 0-10 feet. See the image below (Figure 2) for the locations of the manhole vaults and pipe (highlighted in red) where contamination above EPA's cleanup goal is present and will be addressed in this proposed cleanup plan.

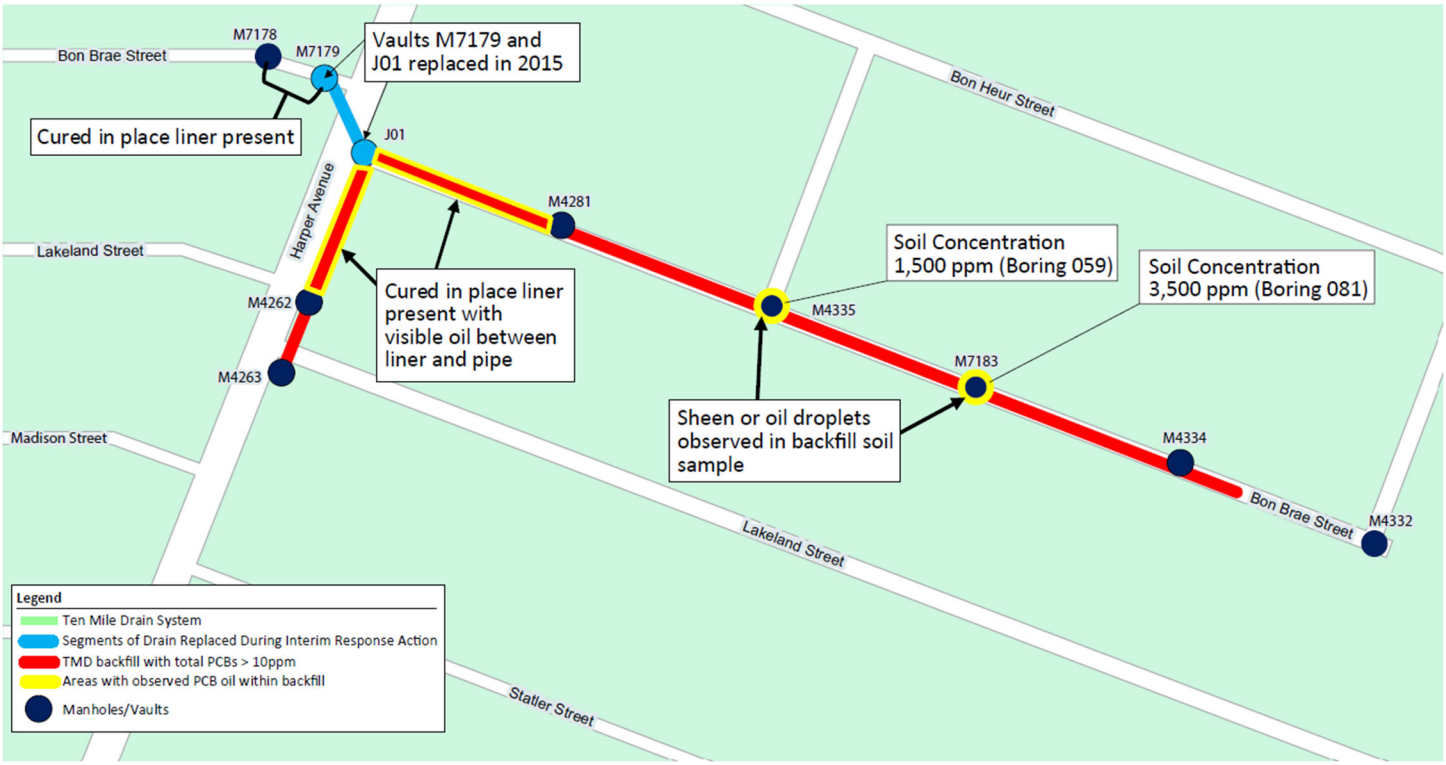

Figure 2: Locations of PCB-contaminated manhole vaults

Summary of proposed cleanup alternatives

EPA is evaluating 5 alternatives to clean up the PCB contamination in the Ten-Mile Drain sewer system. EPA is required to evaluate these options against nine criteria. These criteria help compare how alternatives meet cleanup goals while complying with all applicable laws and regulations. **See page 7 for a detailed explanation of the evaluation criteria.**

Alternatives 2-5 would involve the replacement of a section of the Lakeland Street drain, which is adjacent to the commercial property at the intersection of Harper Avenue (see the map above). EPA would also require land use restrictions, known as institutional controls, or ICs, if PCB-contaminated soils remain in place after the cleanup above the preliminary cleanup goal set for utility workers. These alternatives would include diverting stormwater to keep the work area dry and treating any contaminated water that enters the construction area with a temporary wastewater treatment plant. After implementing the remedy, EPA would develop a monitoring plan to assess stormwater inside the Ten-Mile Drain system to ensure that the remedy is operating as intended. EPA wants to make sure the selected remedy controls

the source of PCBs in the drain system because it is critical to the success of a future remedy of the Lange and Revere Canal sediments.

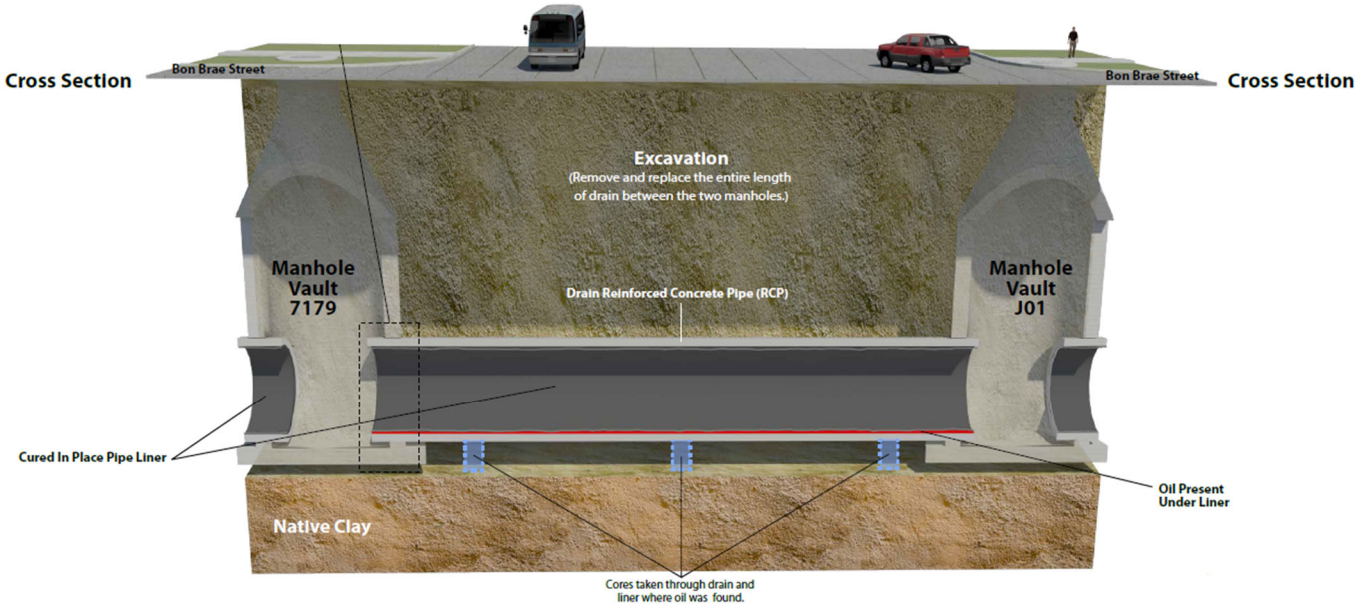

Figure 3: The components of the Ten-Mile Drain system (credit: ch2m)

Alternative 5 *(EPA's Recommended Alternative)*: Excavation and Replacement of 6 Manhole Vaults and a Segment of TMD pipe—including CIPP-Lined Portion

This alternative involves excavating six manhole vaults—two on Harper Avenue and four on Bon Brae Street. EPA would excavate 2,110 feet of the pipe, along with contaminated bedding and backfill, and dispose of all excavated material at an EPA-approved landfill offsite. Then, EPA would install new piping and manhole vaults. This remedy may require ICs. The cost estimate is **$25.3 million,** and the cleanup would take ten months to implement.

EPA recommends Alternative 5 because it will be permanent and effective in the long term. EPA also considered the following alternatives, which it is not recommending because they do not meet the cleanup evaluation criteria as fully as Alternative 5. See page 7 for more detailed explanations of evaluation criteria.

Alternative 1: No action

Regulations require that "No Action" be evaluated to establish a baseline for comparison. Under this alternative, EPA would take no additional action to prevent further migration of PCBs through the Ten-Mile Drain system to the canals and would not include any monitoring or ICs. There is no cost associated with this alternative. **Cost: $0.**

Alternative 2: Grouting of backfill and installation of epoxy liners

This alternative involves stabilizing contaminated backfill material, using jet grouting, surrounding the three vaults on Harper Avenue and the four vaults on Bon Brae Street (see the map on page 2). Then, EPA would install epoxy liner inside the seven vaults and the 2,100 feet of the Ten-Mile Drain pipe as another layer of protection to eliminate contact between the water within the system and the contamination below the manhole vaults. ICs would be required. The estimated cost is **$8.9 million**, and the cleanup would take four months to implement.

Alternative 3: Excavation of 6 manhole vaults & grouting/lining

This alternative involves excavating and replacing six manhole vaults: two on Harper Avenue and four on Bon Brae Street. EPA would also excavate the contaminated bedding and backfill surrounding these vaults and dispose all excavated material at an EPA-approved landfill offsite. Then, EPA would install epoxy liners inside the six newly installed manhole vaults and a segment of the TMD pipe as another layer of protection. Finally, EPA would also stabilize backfill material surrounding the vaults using jet grouting. ICs would be required. The estimated cost is **$12.5 million**, and the cleanup would take six months to implement.

Alternative 4: Excavation of 2 manhole vaults and CIPP-lined pipe & grouting/lining

This alternative involves excavating and replacing: the two manhole vaults located at the corner of Bon Brae Street and Harper Avenue (vaults M4262 and M4281); the CIPP-lined pipe (approximately 600 feet) spanning between them; and the surrounding backfill material. EPA would dispose of all excavated material at an EPA-approved landfill offsite. Then, EPA would install an epoxy liner inside the five remaining PCB-impacted vaults (see the map on page 2) and the TMD pipe connecting these vaults. In addition, EPA would stabilize backfill material surrounding these vaults using jet grouting. ICs would be required. The cost estimate is **$17.3 million**, and the cleanup would take eight months to implement.

What are PCBs?

PCBs are a group of man-made chemicals that were widely used as coolants or lubricants in electrical equipment. Exposure to high concentrations of PCBs has been linked to health effects, including skin and airway irritation, reproductive issues, and cancer. For this reason, the manufacture of PCBs was stopped in the United States in 1977. PCBs do not break down easily once released into the environment, and people can be exposed by ingestion of contaminated soil or water, skin contact, or breathing in contaminated dust. Cleanup of PCB-contaminated soil will substantially reduce the risk exposure to current and future residents, commercial property users and utility workers. For more information about PCBs and their related health risks, please visit www.epa.gov/pcbs, or scan the QR code to the left.

Site background

The Ten-Mile Drain site is on the western shores of Lake St. Clair in Macomb County, Michigan. The site covers several city blocks where PCBs have been found inside the drain system, near-surface soil, and sediment in the Lange and Revere Street canals. The PCB contamination appears to have originated from the commercial property on the corner of Bon Brae Street and Harper Avenue, and was either dumped or used to control dust on a former parking lot. EPA addresses cleanups at sites like Ten-Mile Drain, where assessment of the site's contamination is still ongoing, using a phased approach, allowing smaller sections of the site to be cleaned up to reduce immediate threats to human health and the environmental. This cleanup addresses the PCB contamination in a portion of the TMD storm sewer system, and is the fourth remedial action at this site. A future cleanup plan will address contamination in sediments in the Lange and Revere Street canals.

Next steps

Before making a final decision on this cleanup plan for the Ten-Mile Drain sewer system, EPA will review comments received during the public comment period about the site, the proposed plan, and the cleanup alternatives. The Agency may modify the proposed plan or select another option based on new information. EPA encourages you to review and comment on the proposed cleanup plan. This fact sheet is a summary of the more detailed documents available on the Ten-Mile Drain website or the official repository at the St. Clair Shores Public Library. EPA will respond to the comments in a document called a "responsiveness summary." This will be part of another document called the "record of decision" or ROD. The ROD will describe the final cleanup plan for the sewer system. EPA will announce the selected cleanup plan in the local newspaper, publish it on our website, and notify the information repository.

www.epa.gov/superfund/ten-mile-drain

St. Clair Shores Public Library
22500 E 11 Mile Rd.
St. Clair Shores, MI 48081
www.scslibrary.org

Use this space to write your comments

EPA is interested in your comments on the proposed cleanup plan for the Ten-Mile Drain storm sewer system. You may use the space below to write your comments and submit them at the June 22, 2023 public meeting, or detach, fold, stamp and mail. Mailed comments must be postmarked by July 11, 2023. If you have any questions, please call EPA Community Involvement Coordinator Caitlin McIntyre directly at (312) 353-2073, or toll-free at (800) 621-8431, weekdays 9:00 a.m. – 5:30 p.m. You may also submit your comments via email to mcintyre.caitlin@epa.gov, online at www.epa.gov/superfund/ten-mile-drain, or orally at the public meeting.

Name: _____

Affiliation: _____

Address: _____

City: _____ **State**: _____ **ZIP**: _____

fold

fold

Place
First
Class
Postage
Here

Caitlin McIntyre
Community Involvement Coordinator
U.S. Environmental Protection Agency
EPA Region 5
77 W. Jackson Blvd., RE-19J
Chicago, IL 60604

EPA's recommendation

Alternative 5 is EPA's recommended option as it would be the most protective of human health and the environment. By removing contaminated materials from the site, Alternative 5 offers a long-term and permanent protection against exposure to PCBs in the utility corridor, as well as mitigation against further contamination of the Lange and Revere Street canals, by removing the source of contamination. Excavation and replacement are proven and effective technologies for remediating PCB contamination. A health and safety plan will be prepared before implementation to ensure that the health and safety of people and the environment on and offsite will not be affected by any proposed activity during installation or operation.

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5*
Overall Protection of Human Health and the Environment	❍	●	●	●	●
Compliance with ARARs	❍	●	●	●	●
Long-term Effectiveness and Permanence	❍	⊙	⊙	⊙	●
Reduction of Toxicity, Mobility, or Volume through Treatment	❍	●**	●**	●**	●
Short-term Effectiveness	N/A	●	●	●	●
Implementability	N/A	●	●	●	●
Total Present Cost ($ millions)	$0	$8.9	$12.5	$17.3	$25.3

State Acceptance	Michigan's Department of Environment, Great Lakes, and Energy supports Alternative 5 as the recommended action.
Community Acceptance	EPA will evaluate community acceptance after the public comment period ends on July 11, 2023.

● Fully meets criterion ⊙ Partially meets criterion ❍ Does not meet criterion

N/A: not applicable since no remedy is being implemented in the No-Action Alternative.
*EPA's recommended alternative
**Solidification of impacted media reduce PCB mobility but will not significantly reduce toxicity of volume of wastes.

Explanation of Evaluation Criteria

EPA compares each cleanup option or alternatives with these nine criteria established by federal law.

1. Overall protection of human health and the environment	*Examines whether an option protects both human health and the environment. This standard can be met by reducing or removing pollution or by reducing exposure to it.*
2. Compliance with applicable or relevant and appropriate requirements, or ARARs	*Ensures options comply with federal and state laws.*
3. Long-term effectiveness and permanence	*Evaluates how well an option will work over the long term, including how safely remaining contamination can be managed.*
4. Reduction of toxicity, mobility or volume through treatment	*Determines how well the option reduces the toxicity, movement, and amount of pollution through the use of treatment technologies.*
5. Short-term effectiveness	*Compares how quickly an option can help the situation and how much risk exists while the option is under construction.*
6. Implementability	*Evaluates how feasible the option is and whether materials and services are available in the area.*
7. Cost	*Includes not only buildings, equipment, materials, and labor but also the cost of maintaining the option for the life of the cleanup.*
8. State acceptance	*Determines whether the state environmental agency accepts the option.*
9. Community acceptance	*Considers the opinions of the public about the proposed cleanup plan. The EPA evaluates this criterion after public comments are received during the comment period.*

Upcoming Public Meeting

You are invited to an open house and public meeting to make your voice heard about EPA's proposed plan.

St. Clair Shores City Council Chambers
27600 Jefferson Ave
St. Clair Shores, MI 48081

June 22, 2023
Open House: 5:00 – 6:00 p.m.
Public Meeting: 6:30 p.m.

www.epa.gov/superfund/ten-mile-drain

Ten-Mile Drain Superfund Site: EPA Proposes PCB Cleanup for Storm Sewer System

United States
Environmental Protection
Agency

Region 5
Community Involvement and
Outreach Section (RE-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590